

WHAT IS CLAIMED IS:

1. A spectral ellipsometer having a refractive illuminating optical system (3) for an illuminating ray bundle (2), coming from an illumination unit (1), for generating a measurement spot (6) on a surface (4) of a specimen (5); and having a detector unit (8) that receives and detects, as a measured ray bundle (7), the light reflected from the surface (4) at the location of the measurement spot (6), wherein the illuminating optical system (3) is color-corrected.
- 10 2. The spectral ellipsometer as defined in Claim 1, wherein the color-corrected illuminating optical system (3) is a lens doublet or a lens triplet.
- 15 3. The spectral ellipsometer as defined in Claim 1, wherein the color-corrected illuminating optical system (3) is made of glass having high transmission in the UV range and/or has an anti-reflection coating.
- 20 4. The spectral ellipsometer as defined in Claim 1, wherein the color-corrected illuminating optical system (3) is constructed from individual refractive optical elements that are joined with a cement having high transmission in the UV range.
- 25 5. The spectral ellipsometer as defined in Claim 1, wherein a receiving optical system (9a) that is color-corrected is provided for the measured ray bundle (7).
6. The spectral ellipsometer as defined in Claim 5, wherein the color-corrected receiving optical system (9a) is a lens doublet or a lens triplet.

7. The spectral ellipsometer as defined in Claim 5, wherein the color-corrected receiving optical system (9a) is made of glass having high transmission in the UV range and/or has an anti-reflection coating.
- 5 8. The spectral ellipsometer as defined in Claim 5, wherein the color-corrected receiving optical system (9a) is constructed from individual refractive optical elements that are joined with a cement having high transmission in the UV range.
- 10 9. The spectral ellipsometer as defined in Claim 1, characterized in that it is used to measure material parameters of thin layers applied onto the specimen surface (4).